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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,897	02/07/2001	Nobutaka Taniguchi	100353-00039	4758

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EXAMINER

NGUYEN, LINH M

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 12/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/777,897

Applicant(s)

TANIGUCHI, NOBUTAKA

Examiner

Linh M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

This Office Action is a response to the Applicant's amendment dated 10/16/2002.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to claim 1, the recitation “increasing the delay time *to adjust said phase of said output signal irrespective of said comparison when starting the delay time adjustment*”, in lines 5-6, is not described in the specification. Such limitation makes the claimed invention unclear, and as such, it creates difficulty in distinguishing the claimed invention with the prior art. A full explanation is required to clarify the claimed invention.

As to claim 3, the recitation “*the adjusting of said delay is irrespective of said comparison when starting the step of adjusting of said delay*”, in lines 11-12, is not described in the specification. Such limitation makes the claimed invention unclear, and as such, it creates difficulty in distinguishing the claimed invention with the prior art. A full explanation is required to clarify the claimed invention.

As to claims 4 and 6, the recitation "*the steps of judging and delaying are irrespective of said comparison when starting the delay time adjustment*", in lines 14-15 of claim 4, lines 15-16 of claim 6, is not described in the specification. Such limitation makes the claimed invention unclear, and as such, it creates difficulty in distinguishing the claimed invention with the prior art. A full explanation is required to clarify the claimed invention.

As to claim 7, the recitation "*the steps of delaying, phase detecting, and adjusting are irrespective of said comparison when starting the delay time adjustment*", in lines 16-18, is not described in the specification. Such limitation makes the claimed invention unclear, and as such, it creates difficulty in distinguishing the claimed invention with the prior art. A full explanation is required to clarify the claimed invention.

Claims 2 and 8 are also rejected under 35 U.S.C. 112, first paragraph, because of their dependency on claims 1 and 7, respectively.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, the term "*irrespective*" in "*increasing the delay time to adjust said phase of said output signal irrespective of said comparison when starting the delay time adjustment*", in lines 5-6, renders the claim indefinite as it is unclear how delaying adjustment is irrespective of the comparison when starting time adjustment is performed. As shown in figure 5 of the

claimed invention, the delay adjustment is performed (*via [24]*) after the process of comparison (*performed by [8]*). Clarification is required.

As to claim 3, the term “irrespective” in “*the adjusting of said delay is irrespective of said comparison when starting the step of adjusting of said delay*”, in lines 11-12, renders the claim indefinite as it is unclear how delaying adjustment is irrespective of the comparison when starting time adjustment is performed. As shown in figure 5 of the claimed invention, the delay adjustment is performed (*via [24]*) after the process of comparison (*performed by [8]*). Clarification is required.

As to claims 4 and 6, the term “irrespective” in “*the steps of judging and delaying are irrespective of said comparison when starting the delay time adjustment*”, in lines 14-15 of claim 4, lines 15-16 of claim 6, renders the claim indefinite as it is unclear how delaying adjustment is irrespective of the comparison when starting time adjustment is performed. As shown in figure 5 of the claimed invention, the delay adjustment is performed (*via [24]*) after the process of comparison (*performed by [8]*). Clarification is required.

As to claim 7, the term “irrespective” in “*the steps of delaying, phase detecting, and adjusting are irrespective of said comparison when starting the delay time adjustment*”, in lines 16-18, renders the claim indefinite as it is unclear how delaying adjustment is irrespective of the comparison when starting time adjustment is performed. As shown in figure 5 of the claimed invention, the delay adjustment is performed (*via [24]*) after the process of comparison (*performed by [8]*). Clarification is required.

Claims 2 and 8 are also rejected under 35 U.S.C. 112, second paragraph, because of their dependency on claims 1 and 7, respectively.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Lu (U.S. Patent No. 6,100,735).

With respect to claims 1-2 and 5, as best understood, Lu discloses, in Figures 1 and 7A-C; and col. 8, lines 5-10, a delay time adjusting circuit and a respective method for adjusting a delay time of an input [ICLK] signal so that a phase of the input signal and a phase of an output signal [DCLK] match each other based on a comparison between the phases of the input signal and the output signal; the delay time adjusting circuit comprises a) detecting means [14] for detecting a phase difference between the phase of the input signal and the phase of the output signal, and b) delaying means [12, 20] for increasing a delay time of the phase of the output signal when starting the delay time adjustment.

With respect to claim 3, as best understood, Figures 1 and 7A-C of Lu show a respective adjusting method for adjusting a delay time of an input [ICLK] first periodic signal so that a phase of the input first periodic signal and a phase of an output second periodic signal match each other based on a comparison between phases of the input first periodic signal and the input second periodic signal; the method comprises a step of adjusting [18] the delay time so that when a phase of a predetermined rising edge of the output second periodic signal is behind a phase of a predetermined rising edge of the input first periodic signal, the predetermined rising edge of the

output second periodic signal matches a rising edge of the input first periodic signal, and a phase of the rising edge is behind and nearest to the phase of the predetermined rising edge of the output second periodic signal.

With respect to claims 4 and 6, as best understood, Figures 1 and 7A-C of Lu show a delay adjusting circuit for adjusting a delay time of an input [ICLK] first periodic signal so that a phase of the input first periodic signal and a phase of an output [DCLK] second periodic period match each other based on a comparison between phases of the input first periodic signal and the input second periodic signal; the delay adjusting circuit comprises: a) judging means [14] for judging whether a phase of a predetermined rising edge of the output second periodic signal is behind a phase of a predetermined rising edge of the input first periodic signal, and b) delaying means [12, 20] for adjusting the delay time so that when the phase of the predetermined rising edge of the output second periodic signal is judged to be behind the phase of the predetermined rising edge of the input first periodic signal by the judging means, the predetermined rising edge of the output second periodic signal matches a rising edge of the input first periodic signal, and a phase of the rising edge is behind and nearest to the phase of the predetermined rising edge of the output second periodic signal.

With respect to claim 7, as best understood, Figures 1 and 7A-C of Lu show a delay time adjusting circuit for adjusting a delay time of an input [ICLK] first periodic signal so that a phase of the input first periodic signal and a phase of an output [DCLK] second periodic signal match each other based on a comparison between phases of the input first periodic signal and the input second periodic signal; the delay time adjusting circuit comprises a) delaying means [12,20] for delaying the input first periodic signal so as to generate the output second periodic signal, b) a

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phase-detecting means [14] for detecting whether a phase of a predetermined rising edge of the output second periodic signal is behind a phase of a first rising edge of the input first periodic signal, and c) adjusting means [18] for controlling the delaying means so that when the phase of the predetermined rising edge is judged to be behind the phase of the first rising edge by the detecting means, the delaying means delays the phase of the output second periodic signal until the phase of the determined rising edge and a phase of a second rising edge of the input first periodic signal match each other, and the second rising edge is one period behind the first rising edge, wherein the steps of delaying, phase-detecting and adjusting are irrespective of the comparison when starting the delay adjustment.

With respect to claim 8, Figures 1 and 7B-C of Lu show that the adjusting means [18] controls the delaying means [12, 20] so that, after the phase of the predetermined rising edge and the phase of the second rising edge match each other, the phase of the predetermined rising edge and the phase of the second rising edge match each other all the time within a tolerable range.

Remarks and Conclusion

7. Applicant's arguments filed 10/16/2002 have been fully considered but they are not persuasive.

The Examiner acknowledges the arguments of the Applicant regarding 112, first and second paragraph, at page 5 and 6 of the amendment. However, the stated 112 first and second paragraph rejections still exist since the term "*irrespective*" in claims 1, 3-4, and 6-7 is believed to be mis-descriptive. As shown in Fig. 5 of the claimed invention, the phase comparator [8] has to provide signal [OUT] to state detection circuit [22] and state judgement circuit [20] in order to adjust the delay time by TD (*see page 13, lines 16-35 and also page 16, lines 20-23*).

Regarding the Applicant's argument concerning 112, 2nd paragraph, at page 6 of the amendment, the rejection exists based on lack of disclosure on how the delaying is carried out without the comparison results during the starting process.

Regarding the Applicant's argument at page 11, first paragraph, the Examiner disagrees with the Applicant's statement that "Lu provides no discussion concerning ignoring the phase comparison of the first and the second periodic signals when starting the delay adjustment". As stated in the 112, first and second paragraph rejections, the Applicant fails to show the claimed limitation; therefore, as so far understood, Lu teaches all the claimed limitations cited in the instant invention. Thus, all rejections still hold.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiry

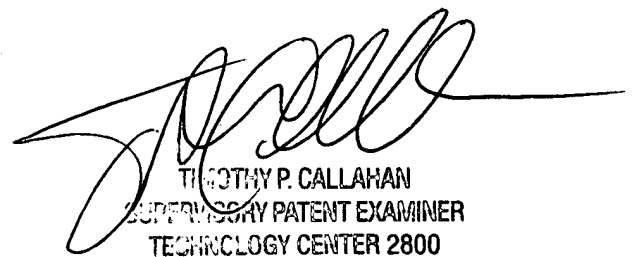
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (703) 305-0414.

The examiner can normally be reached on Alternate Mon, Tuesday - Friday from 7:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (703) 308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Linh M. Nguyen



TIMOTHY P. CALLAHAN
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